Aim: to determine the predictive factors of ST-segment resolution immediately following primary coronary angioplasty for AMI.

Methods: primary angioplasty was performed in 270 consecutive patients with first AMI, they were divided into 2 groups according to whether ST-segment resolution occurred 1 hour after the procedure. ST-segment resolution ≥ 70% was considered as 'complete' ST-segment resolution, whereas ST-segment resolution < 70% was considered as 'incomplete' ST-segment resolution.

Results: of the 270 patients, 156 (57.8%) had complete ST-segment resolution. Patients with pre-infarction angina had a greater degree of ST-segment resolution than those without angina (71 ±21 % vs. 49± 43%, p<0.02).

On multivariate analysis, the absence of pre-infarction angina (OR=2.7; CI 1.7-3.4, p=0.03) as well as the admission after H4 (OR=3.5; CI 1.58-8.06, p=0.002), patient age ≥ 70 year(OR= 5.6; CI 2.23-14.4, p<0.001) and initial TIMI flow grade 0/1 (OR=13.6; CI 4.5-21.2, p<0.001) were major independent predictors of poor ST-segment resolution; whereas sex, coronary risk factors, killip class on admission, multivessel disease and extent of collaterals were not significant.

There was a significant difference in survival free of major adverse cardiovascular events, at multivariate analysis, incomplete ST-segment resolution was an independent factor of 1-year mortality (p=0.016).

Conclusions: Rapid ST-segment resolution was associated with a better clinical outcome and prognosis after successful primary PTCA. Pre-infarction angina, age < 70 years, TIMI flow 2/3 and ischemia time < 4 hours were associated with a greater degree of ST-segment resolution after primary angioplasty.

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The role of ST/HR index and ST/HR hysteresis in detection of significant ischemia in patients referred for a dipyridamol SPECT imaging

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***Purpose*:** The capability ST/HR index and ST/HR hysteresis in detection of ischemia has been validated in patients undergoing standard exercise testing. Its predictive value has never been assessed in pharmacological stress tests using adenosine or dipyridamol.

The objective of our study was to compare the sensitivity and the specificity of ST/HR index and ST/HR hysteresis regarding the diagnostic capability of significant ischemia in patients undergoing stress test with dipirydamol for SPECT evaluation.

***Methods*:** We used a cross-sectional analysis of ST/HR index myocardial perfusion stress-rest SPECT data. Two hundred eighty consecutive patients referred for SPECT evaluation and unable to perform a standard exercise test underwent a pharmacological stress test with dipirydamol. The threshold of significant ischemia was set above 10% reversibility hypoperfusion area from entire surface of left ventricle using semi-quantitative SPECT image analysis (QGS). Diagnostic performance of computerized variables was assessed by receiver operating characteristic (ROC) curve.

Results : Area under ROC curve for ST/HR index and ST/HR hysteresis were 0.564 and 0.597. Sensitivities were 38% and 36%, respectively, when specificity was set at 73% for this parameter. The cut points for ST/HR index and ST/HR hysteresis at this same specificity were 1.05 µV/(beats/min) and 0.015 mV, respectively.

Conclusions: Whereas ST/HR index and ST/HR hysteresis are useful to detect exercise-induced ischemia, these variables don't have a good capability in detection of significant ischemia in a population of patients who are tested with dipirydamol despite an acceptabe specificity.

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The prognostic value of Heart Rate Recovery and Chronotropic Index in patients with ST- elevation myocardial infarction and betablocker therapy

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Background: A HRR< 12 beats/min at 1 min and < 22 b/min at 2 min and a HRCI < 70% are two strong predictors of mortality of any causes. These parameters were not yet studied in patients (pts) recovering from STEMI) under BB.

Objective: To assess the HRR and HRCI in pts. with STEMI, receiving BBs.

Methods: In 102 patients with STEMI (age 32-83 years, ejection fraction(EF) > 40% BB therapy), submaximal exercise ramp treadmill test (ETT) at 9- 12-th days, and maximal ETTs at 21- 30 day , 1 and 3 years were performed. The target maximal parameter was the number of METs required according to Buehlmann Nomogram. The HRR and HRCI and their correlation with Duke Treadmill Score (DTS), and clinical events during 5 years after STEMI (mortality, heart failure=HF,reinfarctization,) were assesed.

Results: 41.1% pts. had pathological HRR values ; 2 from them had a: low risk DTS, 29 had a moderate and high- risk DTS, and from all pts with low risk DTS (45), those with impaired HRR developped clinical events after 5 yrs (OR=6.34) All pts with Borg scala> 15 had impaired HRR. Ten pts with low HRR at 2 min had HF NYHA class II-III after 5 years.The re-infarction occured in 2 pts, (1 pt with low HRR)
94.11% had an HRCI < 70%, but 93 had EF >45%, with no association with the HF.No relation between impaired HRR and HRCI was found.The Borg corrected HRCI seemed to be more sensitive with the occurrence of HF.

Conclusions: 1. The BB therapy strongly influences the HRCI i No association with HF was notticed suggesting that under BBs, a lower cut-off HRCI value should be considered.The Borg corrected HRCI could be an alternative. 2. BB in STEMI does not seem to influence the HRR index. 3. An impaired HRR value seems to be a good criteria in prediction of the development of heart failure in STEMI pts and an independent predictor of cardiac events in a 5 yrs follow- up.

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Assessment of carotid artery stenosis before coronary artery bypass surgery.

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Background: Extracranial internal carotid artery stenosis is a risk factor for perioperative stroke in patients undergoing coronary artery bypass (CAB) surgery. Although both selective and nonselective methods of preoperative carotid screening have been advocated, it remains unclear if this screening is clinically relevant.

Methods: Files of patients consecutively undergoing CAB were reviewed. Patients were retrospectively stratified into high- or low-risk groups according to risk factors for significant carotid stenosis and perioperative stroke identified in the literature: presence of peripheral vascular disease, carotid bruit, diabetes mellitus, age over 70 years and/or previous history of cerebrovascular disease. Prevalence of carotid stenosis detected by ultrasonography, surgical management, and perioperative stroke rates were determined in each group.

Results: 205 consecutive patients underwent preoperative carotid screening. The prevalence of significant carotid stenosis detected by ultrasonography was 5.8%. Univariate analysis confirmed that peripheral vascular disease (p=0.005), carotid bruit (p=0.003) and diabetes mellitus (p=0.05) were significant risk factors for stenosis. Carotid stenosis was a risk factor for stroke (p= 0.03). Prevalence of carotid stenosis was higher in high-risk group than in low-risk group (9.1% vs 1.2%; p< 0.05). All concomitant or staged carotid endarterectomies/CAB (5/205) and all patients who suffered perioperative strokes (5/205) were in the high-risk group (p=0.01).

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